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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/739,439	12/18/2003	Anatoly Z. Rosenflanz	58797US002	9260

32692 7590 09/21/2005

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EXAMINER
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MARCHESCHI, MICHAEL A

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 09/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/739,439

Applicant(s)

ROSENFLANZ ET AL.

Examiner

Michael A. Marcheschi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 July 2005 and 07 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/7/05</u> . | 6) <input type="checkbox"/> Other: _____  |

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 18 is indefinite because the term "eutectic" lacks antecedent basis since a eutectic has not been literally defined before.

**PREVIOUS ART REJECTION:**

Claims 1-5 and 7-9 are rejected under 35 U.S.C. 103(a) as obvious over either Wood et al. (511) and Wood et al. (299) for the same reasons set forth in the previous office action which are incorporated herein by reference.

**NEW ART REJECTION:**

Claims 1-18 are rejected under 35 U.S.C. 103(a) as obvious over Budd et al. (988).

The reference teaches in the abstract, column 3, lines 5-10, column 5, line 45-column 6, line 5, column 7, line 20-column 9, line 15 and the claims, a transparent fused glass ceramic (can comprise more than one crystal-polycrystalline) material (particle having the claimed size) comprising alumina and zirconia in amounts which overlap the claimed amounts. Alumina and zirconia are set forth to provide crystalline phases (col. 5, lines 53-55) and the composition

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contains high crystallinity (col. 5, line 48). In addition, it is stated in column 3, lines 8-10 and claim 6 that the nanoscale crystals comprise at least 50 volume % of the microspheres.

The reference teaches a transparent fused glass ceramic and the statement of “high crystallinity” coupled with the teaching that “the nanoscale crystals comprise at least 50 volume % of the microspheres” reads on the claimed limitation of “less than 10% amorphous material”. With respect to the crystalline phases, these are defined. With respect to the amounts of alumina and zirconia, the reference teaches amounts which overlap the claimed amounts and therefore the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, see *In re Malagari*, 182 U.S.P.Q. 549; *In re Wertheim* 191 USPQ 90 (CCPA 1976). In addition, as can be seen from the reference claims, no specific amounts of alumina and zirconia are defined, the composition being defined in terms of a criteria, said criteria establishing wide ranges for the individual components which apparently would encompass the claimed ranges. In view of this, the limitations of claims 1-5 and 7-9 are met.

With respect to the method, the reference teaches that the starting components are melted (flame) at a specified temperature to form droplets (these are shaped materials, thus implying the claimed shaping step) and quenched. The quenched material can be crushed to form particles of a size desired for the final beads. In view of the remarks defined above coupled with these teachings, the limitation of claims 11-12, 14, 15, 16 and 17 are met.

With respect to the limitations of claims 6, 10, 13 and 18, it is the examiners position that the teachings of the reference encompasses the claimed limitation because the microstructure can

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comprise a nanoscale microstructure and this implies that nanometer laminar microstructure can present. Fused materials can also contain eutectics thus the above claimed limitations are met.

Applicant's arguments filed 7/26/05 and 9/7/05 have been fully considered but they are not persuasive.

Applicants agree Wood et al. (511) and Wood et al. (299) do not teach the “fused” limitation. As defined before, the examiner acknowledges that the references do not teach the fused limitation but one skilled in the art would have appreciated that the materials defined by the reference can be of a similar microstructure and thus be within the broad interpretation of “fused”. In addition, applicants do not adequately describe the fused limitation in the specification as only pertaining to microspheres made by a melt process. In other words, no comparison of “fused” with other methods is defined (how is the microstructure different?).

**Applicants must show clear and convincing evidence that that the beads of the reference are distinct from the claimed beads (in terms of the microstructure, etc).** Applicants state that “fused” refers to either (1) cooling material directly from a melt or (2) heat treating crystalline material cooled directly from a melt. The examiner acknowledges this definition, but (1) this does not adequately describe how a “fused” microstructure is distinct over the microstructure as defined by the references. One can view applicants definition to be process limitations of how the material is formed and applicants have not shown any clear evidence to establish that the claimed microstructure is entirely different from the reference microstructure. The instant application has nothing of record to establish and substantiate applicants arguments.

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Notwithstanding applicants arguments about Kasai et al. (that the composition does not less than contain 10% amorphous material), the examiner withdraws the rejection based on this reference because the reference is silent with respect to the alumina being present in a crystalline phase. It is unreasonable to assume that the reference has this limitation when it is not defined and no suggestion is given for any assumption based on this.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Evidence of unexpected results must be clear and convincing. *In re Lohr* 137 USPQ 548. Evidence of unexpected results must be commensurate in scope with the subject matter claimed. *In re Linder* 173 USPQ 356.

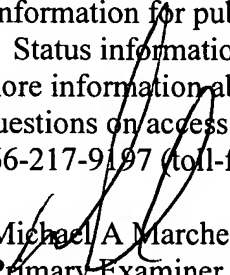
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A. Marcheschi whose telephone number is (571) 272-1374. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

9/05  
MM

  
Michael A. Marcheschi  
Primary Examiner  
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